Abstract Submitted
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An Applied Mathematics Solution to the Double Slit Experiment.[1] JEFFREY BOYD[2], Retired — Unsolved mathematics problems always require an unanticipated angle of attack. The double slit experiment is such a problem. There is evidence that sometimes particles follow zero energy waves backwards, although that is counterintuitive. Putting aside the question "How?," we would increase the tools available if we posited such waves coming from every point on the target screen, passing through the two slits and interfering near the particle gun. Based on the strength of that interference a particle would randomly select one incident wave to follow backwards. After that the particle would follow its wave with a probability of one, subject to no further interference, going through only one of the slits (it doesn't matter which) and impacting the screen at precisely that point from which its wave emanates. It is easy to show that this results in precisely the same mathematics and the same pattern on the target screen. When we search for a model for such a wave, we find a wave designed by Feynman, but we reverse its direction. We can show that such waves form a linear vector space with an inner product, that is a Hilbert space. These hypothetical waves obey the Schroedinger equation, an equation that conveys zero energy but carries probability amplitudes. Wave equations are the same if the waves reverse directions. This unusual approach calls for three new axioms: 1. Wave function collapse precedes measurement; 2. There is no wave particle duality; 3. Particles follow zero energy Schrodinger waves backwards.

[1]NA
[2]This is being considered by the Quarterly of Applied Math

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